

Remarks

Reconsideration and reexamination of the above-identified patent application, as amended, are respectfully requested. Claims 1, 4-9, and 11-16 are pending in this application upon entry of this Amendment. In this Amendment, the Applicant has amended claims 1, 4, 9, and 11; and cancelled claims 2-3 and 10. No new claims have been added in this Amendment. Of the pending claims, claims 1 and 9 are the only independent claims.

Declaration

In the Office Action mailed August 13, 2004, the Examiner indicated that the Declaration is defective because it does not identify the citizenship of each inventor. The Examiner indicated that a new Declaration in compliance with 37 C.F.R. § 1.67(a) identifying this application by application number and filing date is required. In response, the Applicant has submitted herewith a new Declaration in compliance with 37 C.F.R. § 1.67(a).

Claim Rejections - 35 U.S.C. § 102

The Examiner rejected claims 1 and 9 under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 4,641,737 issued to Gillingham et al. ("Gillingham"). The Applicant has amended independent claim 1 to include certain limitations of its dependent claims 2-3; and has amended independent claim 9 to include the limitation of its dependent claim 10. As indicated below, the Examiner rejected dependent claims 2-3 and 10 under 35 U.S.C. § 102(a) and (e) in view of other cited prior art. Accordingly, the Applicant believes that amended independent claims 1 and 9 are patentable under 35 U.S.C. § 102(b) over Gillingham. As such, the Applicant requests reconsideration and withdrawal of the rejection to claims 1 and 9 under 35 U.S.C. § 102(b).

The Examiner rejected claims 1-16 under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 6,613,997 issued to Oster et al. ("the '997 Oster patent"), and

rejected claims 1-16 under 35 U.S.C. § 102(a) as being anticipated by WO 02/18882 A1 issued to Oster et al. ("the PCT Oster application"). The Applicant notes that the specification of the '997 Oster patent is essentially an English translation of the PCT Oster application as the '997 Oster patent is a continuation of the PCT Oster application, and that the figures of the '997 Oster patent and the figures of the PCT Oster application are identical. As such, the relevant teachings of the '997 Oster patent and the PCT Oster application are the same. Accordingly, the Applicant will address the patentability of the claimed invention with respect to the '997 Oster patent.

For the Examiner's reference, the teachings of the present application differ from the '997 Oster patent by disclosing teachings related to a slip range of a pocket T in an annular element which allows the shaft to rotate when rotation of the annular element is blocked. As disclosed in the present application, the pocket T has a slip range therein for forming two stops for a stop beam A. (See FIG. 1 of the present application.) The '997 Oster patent discloses a stop beam and a pocket (see FIG. 1 of the '997 Oster patent) but is void of any teachings regarding the slip range in the pocket. The teachings of the present application further differ from the '997 Oster patent by disclosing teachings related to a second embodiment as shown in FIGS. 4-5 of the present application. The '997 Oster patent is void of any teachings regarding the novel features shown in FIGS. 4-5 of the present application.

The Applicant believes that the claimed invention is patentable over the '997 Oster patent (and the PCT Oster application) and has amended independent claims 1 and 9 to more clearly define thereover.

1. The Claimed Invention

The claimed invention, as recited in amended independent claims 1 and 9, is a rotating actuator which includes a shaft rotatable in clockwise and counter-clockwise directions of rotation.

A. Amended Independent Claim 1

As recited in amended independent claim 1, the actuator includes a shaft, a stop device, and an activation device. The stop device includes an annular element, a bending member, and a stop member. The annular element concentrically envelops the shaft. The bending member connects the annular element to the shaft such that the annular element is rotatable to rotate as the shaft rotates. The bending member is bendable to permit a relative rotation of the shaft with respect to the annular element when rotation of the annular element is blocked. The stop member has a free end and a connecting end. The connecting end is connected to the shaft.

The annular element has a pocket facing the shaft. The free end of the stop member engages the pocket. The pocket has first and second stops which form a slip range for the free end of the stop member to move within as the shaft rotates when the rotation of the annular element is blocked.

The activation device is fixed in place relative to rotation of the shaft. The activation device blocks rotation of the annular element upon activation such that the free end of the stop member moves within the slip range as the shaft rotates in the clockwise direction and then abuts the first stop thereby blocking further rotation of the shaft in the clockwise direction. While the rotation of the annular element is blocked and the free end of the stop member abuts the first stop such that further rotation of the shaft in the clockwise direction is blocked, the shaft is rotatable in the counter-clockwise direction as the free end of the stop member moves within the slip range from the first stop toward the second stop until the free end of the stop member abuts the second stop.

B. Amended Independent Claim 9

As recited in amended independent claim 9, the actuator includes an activatable mechanical stop device for generating a stop to limit the rotation of the shaft in one of or the

other one of the directions of rotation. In order to limit the rotation of the shaft in either one of the directions of rotation, the stop device includes a stop arrangement which acts mechanically upon the shaft to prevent the shaft from rotating further in one of the directions of rotation while providing slip to allow rotation of the shaft in the other one of the directions of rotation. The slip enables sufficient rotation of the shaft in the other one of the directions of rotation for detection by an angle detection device.

The stop device includes an annular element that concentrically envelops the shaft. The annular element is coupled to the shaft to rotate therewith. The stop device further includes an activation device fixed in place relative to rotation of the shaft. The activation device activates in order to block the rotation of the annular element and thereby generate the stop to limit the rotation of the shaft.

2. The Claimed Invention Compared to the '997 Oster Patent

As recited in amended independent claim 1, the claimed invention generally differs from the '997 Oster patent in that the annular element of a stop device has a pocket having first and second stops which form a slip range for a free end of a stop member to move within to allow the shaft to rotate until the stop member abuts one of the stops when the rotation of the annular element is blocked. The '997 Oster patent does not teach or suggest such features.

Therefore, the Applicant believes that amended independent claim 1 is patentable under 35 U.S.C. § 102(e) over the '997 Oster patent (and under 35 U.S.C. § 102(a) over the PCT Oster application). Claims 4-10 depend from amended independent claim 1 and includes the limitations therein. Thus, the Applicant respectfully requests reconsideration and withdrawal of the rejection to claims 1 and 4-10 under 35 U.S.C. § 102.

As recited in amended independent claim 9, the claimed invention generally differs from the '997 Oster patent in that the annular element has a stop arrangement which prevents the shaft from rotating further in one direction while providing slip to allow the shaft to rotate in the other direction when the rotation of the annular element is blocked. The '997 Oster patent does not teach or suggest such features.

Therefore, the Applicant believes that amended independent claim 9 is patentable under 35 U.S.C. § 102(e) over the '997 Oster patent (and under 35 U.S.C. § 102(a) over the PCT Oster application). Claims 11-16 depend from amended independent claim 9 and include the limitations therein. Thus, the Applicant respectfully requests reconsideration and withdrawal of the rejection to claims 9 and 11-16 under 35 U.S.C. § 102.

CONCLUSION

In summary, claims 1, 4-10, and 11-16, as amended, meet the substantive requirements for patentability. The case is in appropriate condition for allowance. Accordingly, such action is respectfully requested. If a telephone or vide conference would expedite allowance or resolve any further questions, such a conference is invited at the convenience of the Examiner.

Respectfully submitted,

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